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EXAMINER	
SINGH, DALZID E	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/865,295	BAROZZI ET AL.	
	Examiner	Art Unit	
	Dalzid Singh	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the optical amplifier as recites in the independent claims must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-7 and 9-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The independent claims recite "optical amplifier or amplifying optical signal". There is no structure or circuit diagram provided to teach a person of ordinary skill how such optical amplifier is connected in the system. Fig. 1 of the disclosure shows optical amplifier (106) provided for amplifying main optical signal and the tapped portion of the signal. Therefore, based on this the specification fails to provide enabling disclosure for the claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-4, 6, 11-13, 16, 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelty et al (US Patent No. 6,690,884) in view of Kim (US Patent No. 6,570,686).

Regarding claim 1 (as far as understood in view of the 112 1st paragraph), Kelty et al discloses optical transmission system, shown in Fig. 4, comprising:

at a first intermediate location along said link, separating a portion of an optical signal traveling along said link to form a first measurement optical signal (as shown in Fig. 4, optical distributor (30) separates portion of optical signal to form first measurement signal);

detecting said first measurement optical signal to form a first measurement electrical signal (the monitor circuit (38) detects the first measurement optical signal and form a first electrical signal); and

performing error correction decoding on said first measurement electrical signal to generate an indication of correct receipt of data at said first intermediate location (see col. 7, lines 1-20).

Kelty et al disclose optical monitoring system in which optical signal is tapped and differ from the claimed invention in that Kelty et al do not disclose amplifying the tapped optical signal. Kim teaches the use of optical amplifier for amplifying a tapped portion of the optical signal (see Fig. 4 and col. 4, lines 44-49). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was

made to provide optical amplifier to amplify the tapped portion of the optical signal as taught by Kim to the system of Kelty et al. It is well known that signal level degrades as it travels the transmission medium, therefore one of ordinary skill would have been motivated to provide optical amplifier to amplify degraded optical signal in order to increase signal strength.

Regarding claim 2, as discussed above, and in col. 7, lines 58-65, Kelty et al discloses using said indication of correct receipt of data at said first location to determine a fault along said link prior to said first intermediate location (FEC monitoring help identify source of error).

Regarding claim 3, in col. 7, lines 1-19, Kelty et al discloses isolating a portion of a particular wavelength component of said optical signal.

Regarding claim 4, Kelty et al discloses that the system comprise:

at a second location along said link, separating a portion of an optical signal traveling along said link to form a second measurement optical signal (as shown in Fig. 2, Kelty et al shows dist (30) separates the portion of the optical signal);

detecting said second measurement optical signal to form a second measurement electrical signal (the monitor circuit (38) detects the first measurement optical signal and form a first electrical signal); and

performing error correction decoding on said second measurement electrical signal to generate an indication of correct receipt of data at said second intermediate location (see col. 7, lines 1-20).

Regarding claim 6 (as far as understood in view of the 112 1st paragraph), Kelty et al discloses optical transmission system, shown in Fig. 4, comprising:

a coupler that separates a portion of an optical signal traveling along said link (as shown in Fig. 4, optical distributor (30) separates portion of optical signal to form first measurement signal);

an optical receiver that recovers data based on said portion of said optical signal (see col. 7,lines 1-19);

error correction decoding circuit that identifies number of detected errors in receipt of said data; and a link verification stage that generates an indication of link operation based on errors identified by said error correction decoding circuit (see col. 7,lines 1-19).

Kelty et al disclose optical monitoring system in which optical signal is tapped and differ from the claimed invention in that Kelty et al do not disclose amplifying the tapped optical signal. Kim teaches the use of optical amplifier for amplifying a tapped portion of the optical signal (see Fig. 4 and col. 4, lines 44-49). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide optical amplifier to amplify the tapped portion of the optical signal as taught by Kim to the system of Kelty et al. It is well known that signal level degrades as it travels the transmission medium, therefore one of ordinary skill would have been motivated to provide optical amplifier to amplify degraded optical signal in order to increase signal strength.

Regarding claim 17 (as far as understood in view of the 112 1st paragraph), Kelty et al discloses optical transmission system comprising:

means for separating a portion of an optical signal traveling along said link (as shown in Fig. 4, Kelty et al shows DIST (30) to separate portion of optical signal which is measured and compared);

means for recovering data based on said portion of said optical signal (the monitor recovered data in order to be monitored);

means for identifying errors in receipt of said data; and means for generating an indication of link operation based on errors detected by said error identifying means (see col. 7, lines 1-19 and 58-65).

Kelty et al disclose optical monitoring system in which optical signal is tapped and differ from the claimed invention in that Kelty et al do not disclose amplifying the tapped optical signal. Kim teaches the use of optical amplifier for amplifying a tapped portion of the optical signal (see Fig. 4 and col. 4, lines 44-49). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide optical amplifier to amplify the tapped portion of the optical signal as taught by Kim to the system of Kelty et al. It is well known that signal level degrades as it travels the transmission medium, therefore one of ordinary skill would have been motivated to provide optical amplifier to amplify degraded optical signal in order to increase signal strength.

Regarding claims 11, 16 and 21, Kelty et al disclose optical receiver for receiving the separated signal that generates an electrical signal based on said portion of said optical signal. Kelty et al differ from the claimed invention in that Kelty et al does not specifically disclose a demodulator that recovers data from said electrical signal. However, since data signal is modulated, therefore it would have been obvious that a demodulator can be incorporated to further recover data or information modulated within the optical signal.

Regarding claim 12 (as far as understood in view of the 112 1st paragraph), Kelty et al discloses optical transmission system, as shown in Fig. 4, comprising:

a first link monitor that monitors performance of said link at a first intermediate location along said link (as shown in Fig. 4, optical distributor (30) separates portion of optical signal to form first measurement signal); and

wherein said first link monitor comprise:

a coupler that separates a portion of an optical signal traveling along said link (Kelty et al shows dist (30) separates the portion of the optical signal);

an optical receiver that recovers data based on said portion of said optical signal (see col. 7, lines 1-19);

error correction decoding circuit that identifies error in receipt of said data (see col. 7, lines 1-19); and

a link verification stage that generates an indication of link operation based on a number of errors detected by said error correction decoding circuit (see col. 7,lines 58-65).

Kelty et al differs from the claimed invention in that Kelty et al do not disclose a second link monitor that monitors performance of said link at a second intermediate location along said link. However, in col. 7, lines 58-65, Kelty et al suggest monitoring FEC at various points. Therefore, it would have been obvious to an artisan of ordinary skill in the at the time the invention was made to provide second link monitor in order to monitor optical performance at another location.

Kelty et al disclose optical monitoring system in which optical signal is tapped and differ from the claimed invention in that Kelty et al do not disclose amplifying the tapped optical signal. Kim teaches the use of optical amplifier for amplifying a tapped portion of the optical signal (see Fig. 4 and col. 4, lines 44-49). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide optical amplifier to amplify the tapped portion of the optical signal as taught by Kim to the system of Kelty et al. It is well known that signal level degrades as it travels the transmission medium, therefore one of ordinary skill would have been motivated to provide optical amplifier to amplify degraded optical signal in order to increase signal strength.

Regarding claim 13, Kelty et al discloses that a fault is located based on said indications of link operation from said first link monitor and said second link monitor (see col. 7,lines 58-65).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelty et al (US Patent No. 6,690,884) in view of Kim (US Patent No. 6,570,686) and further in view of Levy et al (US Pub. No. 2003/0210908).

Regarding claim 5, Kelty et al disclose monitoring and indicating faults and differs from the claimed invention in that Kelty et al do not locate fault by using indication of correct receipt of data at first and second location. Levy et al teach performance monitoring system used in optical communication in which each location is monitored for correct receipt of data (see paragraphs [0012-0016]) and determine location of faults. Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to locate faults by using indication of correct data receipt in order to determine exact location of faults.

7. Claims 7, 9, 10, 14, 15 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelty et al (US Patent No. 6,690,884) in view of Kim (US Patent No. 6,570,686) and further in view of Fujita et al (US Patent No. 6,204,959).

Regarding claims 7, 14 and 18, in col. 5, lines 3-20, Kelty et al disclose wavelength selective which select a particular wavelength and differs from the claimed

invention in that Kawano does not disclose a filter that isolates a particular wavelength component of said portion of said optical signal for input to said optical receiver. However, it is well known to provide optical filter to isolate a particular wavelength. Fujita et al is cited to show such well known concept. In col. 4, lines 40-49, Fujita et al disclose filter to isolate a particular wavelength. Therefore, it would have been obvious to an artisan of ordinary skill in the art to provide such filter to the system of Kawano. One of ordinary skill in the art would have been motivated to do such in order to reduce or eliminate noise within the optical signal.

Regarding claims 9, 15 and 19, as discussed above, Fujita et al further disclose that the filter is a tunable filter (see col. 4, lines 40-49), which be tuned to a selected wavelength component.

Regarding claims 10 and 20, as discussed above, Fujita et al further disclose that the filter is a tunable filter (see col. 4, lines 40-49), therefore it would have been obvious that the filter can be tuned to a selected wavelength component.

Response to Arguments

8. Applicant's arguments with respect to claims 1-7 and 9-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Youn et al (US Patent No. 6,928,243) is cited to show optical performance monitoring apparatus for a WDM optical communication system.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DS
November 13, 2006
Dalzid Singh